operation, however, failed to be of use and unquestionably hastened death, the result of pain, exhaustion, and disturbance of the kidney.

The pain was very great after the operation. In fact, I have never seen anyone suffer as much as this patient did.

Following the operation there was a marked falling off in the amount of urine as well as in the amount of urea secreted. Edebohls claims that improvement cannot be looked for until at least ten days after operation—the patient in this instance lived but eight.

The reason for failure of the operation to give benefit in this case may possibly be found in the contradictory statements contained in Dr. Gibbon's notes and in those at the post-mortem. Dr. Gibbon stripped the capsule back in both kidneys as far as the pelvis and left them inverted in the manner prescribed by Edebohls, expecting that they would contract and shrivel up. On the post-mortem table, however, but a comparatively small area of kidney surface was denuded in both kidneys, and the capsule was found adherent where Dr. Gibbon had stripped it away. There was no statement in the post-mortem notes whether or not any new vessels had formed and passed between the surrounding tissue and the kidney.

It is, of course, out of the question to draw conclusions of much value from a single case, and the report is read with a hope of eliciting some discussion as to the class of kidney disease best suited for this operation, and as to the technique of the operation itself. I was much impressed with the gravity of the operation, even in such a favorable case as this, in which the suffering was tremendous, and the result a rapid death from uræmia.

ORTHOSTATIC ALBUMINURIA. REPORT OF A CASE.[1]

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The etiology and clinical significance of functional albuminurias are not well understood. Within the last year or two several French physicians have offered a rational explanation for at least one variety, the so-called "albuminurie orthostatique," of which the following case is an example:

C. W., male, aged twenty-five years, single, cigarmaker, a native of Pennsylvania, complained of severe nervous symptoms and great weakness.

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[1] Reported at a meeting of the Clinical Section of the Medical and Chirurgical Faculty of Maryland, December 12, 1902.

Family History. Father died of apoplexy at the age of sixty-six years; the mother is living, aged sixty-two years, she suffers from indigestion; six brothers and five sisters are living and in good health.

Past History. Had measles, whooping-cough, and mumps as a child; at the age of thirteen years a severe attack of diphtheria; for the past four or five years the patient has been suffering from nervous dyspepsia.

His occupation confined him within doors, his working hours were long; for several years has enjoyed very little outdoor life. Alcohol and tobacco are taken very moderately. There is no history of specific infection.

For the past three years the patient has been a sexual neurasthenic and has complained of many of the subjective symptoms characterizing general neurasthenia, such as extreme irritability, weakness, mental depression, fear of sickness, vertigo, sleeplessness, palpitation of the heart, and vague sensory and vasomotor disturbances.

About one year ago he was examined for life insurance and albumin was found in his urine. He was treated for seven months for this condition and his nervous symptoms without any apparent improvement.

When I first saw the patient, on May 15, 1902, his general condition was fairly good; he was rather poorly nourished and weighed one hundred and thirty-seven pounds. The skin was sallow; there was a slight pallor of the lips and conjunctiva; the face was either flushed or pale, and the expression nervous.

Chest. Well developed; respiratory rhythm and sound normal.

Heart. Position of apex normal. No forcible impulse at apex; no increase in area of cardiac dulness; no accentuation of second aortic sound; no murmurs.

Pulse (sitting), 82; rhythm good; tension and volume normal.

Liver and spleen negative. Kidneys not palpable.

Digestive System. Tongue slightly coated; appetite good; but for some time there has been a sense of pressure over the epigastrium which is most marked half an hour after eating, and is associated with nausea, eructations, and a feeling of general weakness.

Physical examination of the stomach negative. (No test meal was made at this visit.) His bowels were inclined to be constipated.

Nervous System. Sensorium rather dull; suffered very little from headache, but had occasional attacks of vertigo; sleep, restless; did not feel refreshed in the morning. No marked tremors.

Had a general hyperæsthesia and a paræsthesia confined to the lower abdomen and both legs; these sensations were generally tingling in character. He also had girdle-like pains occurring three or four times a day, and lasting from half to one hour.

The tendon reflexes were slightly diminished; skin reflexes normal.

Vasomotor symptoms were quite marked. Morbid flushing of the face alternated with extreme pallor. The hands were purple and congested and the feet felt as if they were swollen, except when lying down. Factitious urticaria was particularly well marked, especially over the chest and abdomen. The superficial veins of the extremities were very prominent and felt tense.

Red blood count 4,400,000. No leucocytosis.

Urine. Patient voided urine frequently, which was sometimes accompanied with a slight burning sensation. He rarely passed less than four pints in twenty-four hours.

The first specimen examined was voided in the evening, after supper, and after he had been walking and standing a great deal during the day. It had a specific gravity of 1030, and contained 0.7 per cent. serum-albumin (Purdy's method), a few hyaline casts, squamous epithelium, and pus cells.

The patient was instructed to bring two specimens the next day, one of the morning's urine upon rising and another of the urine after moderate exercise. An examination showed that the morning's urine was entirely free from albumin, and that voided at noon contained a considerable quantity. At 3 P.M. I examined a specimen of freshly voided urine; he had been on his feet for several hours, but had done very little walking; it was found to contain 0.1 per cent. The patient remained seated in my office from 3 to 5 P.M., when another freshly voided specimen was examined. This time the reaction was absolutely negative for serum-albumin.

Similar observations were made on the following day which showed practically the same result, as follows: Morning urine negative. Urine passed at 12.30 P.M., after walking, marked traces of albumin. Urine passed at 5 P.M., after walking, marked traces of albumin. Urine passed at 8 P.M., after standing, 0.3 per cent. of albumin. Microscopically, most of these specimens contained hyaline casts; they were otherwise negative.

The treatment prescribed was outdoor life, with moderate exercise, restricted proteid diet, cold wet-packs at night, and tincture nux vomica and syrup hypophosphites (U. S. P.) before meals.

On June 18th, one month later, the patient again reported, when the following notes were recorded:

"General condition is decidedly improved; there has been a gain of two and one-half pounds in weight; he appears to be less nervous; the appetite is improved, there is less nausea; the bowels are still constipated; he sleeps better and feels more refreshed on waking in the morning. He has been able to take more exercise and has felt less fatigued afterward."

He brought two specimens of urine voided May 20th; one, passed after standing quietly for two hours, contained 0.1 per cent. albumin; the other, passed two hours later after resting in a chair, was absolutely free from albumin.

June 16th. Five specimens were examined: (*a*) Morning urine negative. (*b*) Urine passed at noon after playing baseball, slight traces of albumin. (*c*) Urine passed at 2.30 P.M. after dinner and moderate exercise, marked traces of albumin. (*d*) Urine passed at 6 P.M. after a period of rest (sitting), negative. (*e*) Urine passed at 9.30 P.M. after exercise, contained traces of albumin.

17th. Two specimens: (*a*) Urine passed at noon after dinner and considerable exercise, had marked traces of albumin. (*b*) Urine passed before supper and after no exercise, negative.

Hyaline casts were found in only a few of the specimens.

Alternate hot and cold spinal douches in the morning were added to the previous treatment.

July 15th, his next visit, the patient had gained four pounds in weight; he endured exercise with much less fatigue, but complained of having, at times, a feeling of general depression, lasting from two to three hours, and was annoyed with distress in his epigastrium in the morning after eating breakfast. His appetite had remained good and bowels had been regular.

A test meal was made and 85 c.c. of gastric contents removed, which gave a total acidity of 80, and contained a large amount of clear, stringy mucus. He was directed, in addition to previous treatment, to wash out his stomach every morning before breakfast.

7th. Four specimens of urine examined for albumin were negative.

8th. Of four specimens examined three were negative; the other specimen, voided before going to bed and after a long period of standing, contained traces.

15th. Two specimens examined were both negative. No casts were present in any of these specimens.

The patient again reported on August 12th, much improved. He felt relieved of most of his nervous symptoms and he had a better color and expression. His weight was the same as at the last visit. The distress after eating had been considerably relieved by lavage.

A test meal was made and 140 c.c. of gastric contents were removed. The total acidity was 85.

Of six specimens of urine examined, one contained 0.25 per cent. albumin. This specimen was voided at 10 P.M., after the patient had been on his feet for several hours, standing most of the time. The ice-packs, spinal douches, and lavage were continued. Tincture nux vomica was ordered in increasing doses before meals, and a powder was prescribed, containing prepared chalk, calcined magnesia, and bicarbonate of soda, to be taken after meals.

September 22d, the patient felt very well; he had gained four pounds in weight and was entirely relieved of his gastric symptoms; one specimen of urine examined was negative.

November 17th, his last visit, the following notes were taken: "General appearance good; there is a tendency to flushing of the face and spurious urticaria is present; weight one hundred and forty-eight and a half pounds—a gain of eleven and a half pounds since the first visit; the appetite is very good, he eats the ordinary mixed diet and has no distress after eating; the bowels are regular; sleep is undisturbed; micturition is normal and about 2000 c.c. are passed daily; the urine is negative for albumin; five specimens of urine were examined."

The lavage and powders of chalk, magnesia, and soda were discontinued the latter part of October, the gastric symptoms having been entirely relieved.

The wet-packs were continued regularly for three months and occasionally after that time. Tincture nux vomica was taken throughout the entire course of treatment.

The patient resumed his former occupation about November 1, 1902, and, thus far, has experienced no ill effects.

SUMMARY. Of 36 specimens of urine examined, extending over a period of six months, the specific gravity averaged 1026.2; the percentage of urea 2.45 per cent. Serum albumin was present in 12 specimens, 10 of which occurred in the first 16 specimens examined, covering the first month of treatment. The other 2 in the last 16, covering five months of treatment. Of 8 specimens examined before treatment the specific gravity averaged 1028.3 against 1025.8 after treatment, and the percentage of urea 2.8+ per cent. against 2.3 per cent. after treatment.

If we recount the striking facts in this case—serum albumin appearing in the urine when the patient is in the upright posture, standing; diminished by exercise or fatigue, not influenced by diet; disappearing in the sitting or horizontal position; the high specific gravity; the normal or moderately increased percentage of urea; no casts except hyaline; no organic changes in the cardiovascular system; but a marked disturbance of the vasomotor system, we have the very interesting symptom-complex which has recently been described by several French writers as orthostatic albuminuria.

I wish to refer especially to Dr. J. Vire's valuable contribution in the form of a thesis, extracts of which have been published.[1] According to this author, orthostatic albuminuria is a form of albuminuria in which the station is the only factor producing the condition. It appears only in young persons who are otherwise apparently healthy. It is not influenced by fatigue, habit, or milk diet, and is not accompanied by any of the functional conditions associated with Bright's disease.

The discovery is purely accidental and depends upon methodical examination of the urine. Standing immobile will cause albumin to appear; it disappears on assuming the horizontal position. Albumin may persist while the patient is walking, but walking alone does not suffice to produce albuminuria. No functional condition in other organs can explain this form of albuminuria. There are, in all cases, certain vasomotor disturbances, such as cyanosis of extremities, or hay fever; this suggests a nervous origin of this phenomenon.

The examination of the urine reveals a fluctuating character and is associated with symptoms of catarrh of the urinary passages and the presence of nucleo-albumin and mucus. The quantity, color, and density are about normal. The urine is rich in salts, such as urates, phosphates, and oxalates. The quantity of serum-albumin does not exceed one gramme in twenty-four hours. The serum-albumin points to the renal origin of the process.

Diagnosis. A positive diagnosis is simple. The differential diagnosis must be made from the albuminurias of Bright's disease; of cardiac and digestive origin, of tuberculosis, of Pavy's disease, and finally from the albuminuria of fatigue. Cases may occur in which these forms are combined.

The prognosis is benign; cases are often cured spontaneously when there is a gain in the individual's weight.

None of the cases observed by Vire resulted in Bright's disease.

Orthostatic albuminuria occurs equally in both sexes. It occurs in neuropathic and slightly anæmic adolescents presenting a nervous or diathetic heredity, and is always associated with an appreciable disturbance of the vasomotor system.

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[1] L'Independence Médicale, 1901, No. 19.

Orthostatic albuminuria seems to be due to fluctuating congestion of the kidney, a vasomotor disturbance of the renal circulation. It may be compared to the cyanosis of the extremities which is produced by the same cause.

Aubertin and Rogers[1] reported five cases of distinctly orthostatic albuminuria following scarlet fever. Aubertin believed it to be the terminal stage of a previous nephritis and a disturbance in the circulation of the kidney.

Rudolph[2] believes that this form of albuminuria is the result of venous stagnation. The fact that the upright posture causes the albuminuria indicates that it is physical. He thinks that it is the result of previous inflammation of the kidneys and lack of elasticity of the vessel walls in the glomeruli.

Niviere[3] reported a case of orthostatic albuminuria in a young man, aged twenty years, who had dyspepsia for five years, and had had scarlet fever at the age of seven years. The patient had a movable right kidney. There was one gramme of albumin to the litre of urine. A flannel binder relieved the condition, but the albumin reappeared when the binder was removed. Niviere believes that the albuminuria was due to mechanical causes, which disappeared when the abdominal viscera were kept in place.

The treatment, as directed by Vire, is hygienic, strengthening, and antinervous, the line adopted in this case in which the albuminuria disappeared in one month.

ON THE OCCURRENCE OF EHRLICH'S DIMETHYLAMIDOBENZALDEHYDE REACTION IN THE URINE.

By Charles E. Simon, M.D.,
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About two years ago Ehrlich[4] pointed out that under certain conditions dimethylamidobenzaldehyde produces a red color with certain mucins, and that a similar reaction may be obtained with both normal and pathological urines. He was guided in his experiments by a knowledge of the readiness with which the aldehydes react with various chemical substances, and notably with anilins and phenols. By making use of aldehydes which furnish colored compounds, his view was, if

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[1] La Presse Médicale, October 9, 1901, No. 81.

[2] Centralblatt f. innere Medicin, February 24, 1900, 21 Jahrg., No. 8.

[3] Bulletins et Mémoires de la Société Médicale des Hôpitaux de Paris, 1901, No. 6.

[4] Ueber die Dimethylamidobenzaldehydreaction. Med. Woch., 1901, No. 15.